

1274075

# PATENT SPECIFICATION

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## DRAWINGS ATTACHED

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## (54) IMPROVEMENTS IN OR RELATING TO DISPENSING TAPS

(71) I, LAURIE BURDETT KEMPE, of Retreat Hotel, Princes Highway, Nicholson, State of Victoria, Australia, of Australian nationality, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

10 This invention relates to dispensing taps and in particular relates to taps for dispensing beverages such as beer or cordials.

15 It has been long recognised that taps for dispensing beverages such as beer require to be instantaneous in shut-off to prevent dripping and to be constructed for ease of cleaning by unskilled persons.

20 Some beer taps in present use are substantially drip free on shut-off, but due to the corrosive and other properties of beer, such as growth formation, leakage of beer along the valve stem causes undesirable accumulation of matter in and around the operating mechanism of conventional taps, such as the valves, springs, and other movable parts. In some taps a spring 25 and cam arrangement for the operating handle is located in a separate chamber in the tap body and the removal and cleaning of these parts is extremely difficult for the average person.

30 It is an object of the present invention to provide a construction of a dispensing tap for liquids which ensures that leakage of the liquid through to the spring-loading and operating handle mechanism is prevented, whilst providing ease of disassembly of the tap parts for cleaning, and still retaining the feature of drip free dispensation.

35 It is a further object of the invention to provide a construction of dispensing tap which employs fewer component parts, and wherein component parts are adaptable to manufacture from hard plastic material as by moulding.

40 According to the invention there is provided a dispensing tap for liquids comprising a hollow body including an inlet for connection to a liquid source and a passage connecting

the inlet to an outlet, a valve member in said passage operable to open and close said passage, a hollow elongated valve-actuating member slidably located in a bore at the opposite end of said body from said inlet for engagement with said valve member, said hollow slidable member being open at its valve member engaging end and closed at its other end, said closed end being engageable by a handle pivotally mounted on said body, and said hollow slidable member being provided with a radial aperture between its ends in communication with an aperture in the underside of said body open to atmosphere for the purpose of relieving air lock formation at the outlet on closure of the valve, and sealing means, for said slidable member, located in said bore between said apertures and said valve member engaging end of said slidable member.

45 Preferably the handle is removably located in said body so as to be rotatable on a pivot pin inserted through said body and handle, said handle being provided with a cam presented within the body for engagement with the one end of the slidable member, to move the slid- 50 able member longitudinally against spring pres- 55 sure in the direction of the valve.

55 The valve member preferably forms part of an assembly having a valve spring and if re- 60 quired a spring support member, the support member being located in the body near the inlet by mating screw threads provided on the outer surface of the support member and on the inner surface of the body.

65 The valve member is preferably slidably operable longitudinally along the passage and is positioned in the passage by projections 70 slidably engaging the wall of the passage.

75 In order that the invention may be more readily understood, it will now be described by way of example with reference to a particular embodiment as shown in the figures of the accompanying drawings wherein:—

80 Figure 1 is a perspective view of the dispens- 85 ing tap;

85 Figure 2 is a side elevation section showing

50 55 60 65 70 75 80 85 90

the components in the shut off position of the tap;

Figure 3 is a side elevation section, showing the components in the held-on position of the tap;

Figure 4 is a side elevation section showing the components in the locked-on position of the tap; and

Figure 5 is a cross section taken along lines 10 5—5 of Figure 2.

Referring to the drawings, a dispensing tap 1 is provided with a hollow body 2 which terminates in a bar face inlet connection 6 having an externally screwed thread.

15 Body 2 includes a passage 5 of predominantly cylindrical form leading from the screwed inlet connection 6 at one end, to outlet 7. The other end of body 2 is shaped to accommodate handle 8 mounted on a pivot pin 9 which is held by push fit engagement in journal apertures in the body. The pivot pin 9 is of reduced diameter for that part of its length corresponding to the width of the base of the handle to retain the pin in position.

20 25 A cam surface 10 is provided on the end of handle 8 to engage the end surface 11 of slidable member 12. Slidable member 12 is supported slidably in bore part 3 and carries spring 13 engaging against shoulder 26. Spring 30 13 acts between shoulder 18 in the bore and shoulder 26 to hold the slidable member 12 against the cam 10 and, in the non-operative position of the handle, serves to maintain the slidable member 12 out of engagement with valve member 14. The spring 13 also serves to locate handle 8 in the position around which it pivots on the reduced portion of pivot pin 9 which is held in the journal apertures in body 2.

40 45 O-ring 15 is located around slidable member 12 and is held against shoulder 18 by spring 13 as a seal against leakage of liquid along the slidable member.

The slidable member 12 is hollow and has an open end 16, and a closed end 11 as previously referred to engageable by the handle portion 10. The bore 27 is in communication with air holes 24 in the slidable member through air holes 24 in the slidable member with air hole 17 provided in the body 2 when the handle is in the non-operative or released position.

50 55 Valve spring support member 4 is hollow and is screw threaded into body 2. Valve member 14 is slidable along passage 5 but is spaced from the wall of passage 5 by projections 19. The valve member 14 is operated against the pressure of spring 20, positioned in a recess in support member 4.

60 65 The face of valve member 14 is provided with a resilient washer 23 which snaps over stud 21 at the centre of the valve face. Slot 22 on valve spring support member 4 assists in the screwing or unscrewing of the valve assembly from body 2.

65 On operation of the handle 8, the slidable

member 12 is urged under the action of cam 10 against the pressure of spring 13 until end 16 of the slidable member 12 contacts stud 21 and so closes bore 27. Further movement of the handle slides valve member 14 against the pressure of spring 20, opens the valve from its seating on shoulder 25 in passage 5, and so allows the liquid retained by the valve to flow through to outlet 7. This position is shown in Fig. 3.

70 On releasing the handle, the springs 13 and 20 restore the slidable member, the handle, and the valve to their original positions.

75 Air inlet 17 immediately allows air to be drawn into the passage 5 on the outlet side of valve member 14 through air holes 24 in the slidable member 12, and the bore 27.

80 This allows the liquid still remaining in the tap body to drain out quickly, cleanly, and without disturbance caused by an air lock which would otherwise be formed immediately following closure of the valve.

85 On operating the handle to its position shown in Fig. 4 a flat on the cam 10 engages the end of slidable member 10 and locks the handle in the "on" position until it is pushed back over the peak of the cam.

90 95 It will be appreciated that most of the components used in the dispensing tap may be formed of hard plastic material which is desirable for obvious reasons of hygiene and economy. The springs would be preferable of stainless steel, and the valve face washer, and sealing ring material would be preferably neoprene.

#### WHAT I CLAIM IS:—

100 105 110 115 120 125 1. A dispensing tap for liquids comprising a hollow body including an inlet for connection to a liquid source and a passage connecting the inlet to an outlet, a valve member in said passage operable to open and close said passage, a hollow elongated valve-actuating member slidably located in a bore at the opposite end of said body from said inlet for engagement with said valve member, said hollow slidable member being open at its valve member engaging end and closed at its other end, said closed end being engageable by a handle pivotally mounted on said body, and said hollow slidable member being provided with a radial aperture between its ends in communication with an aperture in the underside of said body open to atmosphere for the purpose of relieving air lock formation at the outlet on closure of the valve, and sealing means, for said slidable member, located in said bore between said apertures and said valve member engaging end of said slidable member.

2. A dispensing tap as claimed in claim 1, wherein spring means are located around said slidable member and engage against shoulders in said bore and on said slidable member so as to bias said slidable member away from said valve member.

3. A dispensing tap as claimed in claim 2, wherein said sealing means comprise an O-ring located between said spring means and the shoulder in said bore.

5 4. A dispensing tap as claimed in claim 2 or 3, wherein said handle is pivotally mounted on said body on a removable pin insertable through apertures in said body and said handle on movement of said slidable member against the pressure of said spring means, said pin being of reduced diameter over its handle-engaging length.

10 5. A dispensing tap as claimed in any preceding claim, wherein the part of said handle engageable with said slidable member is provided with a cam portion.

15 6. A dispensing tap as claimed in any preceding claim, wherein the valve member is held in said passage against a valve seat by spring means, said spring means and said valve

means being removable through said inlet in the body.

25 7. A dispensing tap as claimed in claim 6, wherein the valve seat comprises a shoulder in said passage and the valve member is provided with a resilient sealing washer held on the valve member by snap fastener means.

30 8. A dispensing tap as claimed in claim 4, wherein the slidable member, spring means and O-ring seal are located in said bore so as to be removable therefrom on removal of the handle to facilitate cleaning of these parts.

35 9. A dispensing tap substantially as herein described with reference to the accompanying drawings.

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COMPLETE SPECIFICATION

1 SHEET

*This drawing is a reproduction of  
the Original on a reduced scale*